

What is claimed is;

1. An electronic camera that creates an image file by processing image data obtained through an image-capturing operation, comprising:

5 an image-capturing unit that generates the image data by capturing a subject image;

a data extraction unit that sets an image plane range corresponding to an image portion of the image data and extracts data of the image portion in the image plane range;

10 a data insertion unit that writes data of a predetermined specific image over the image plane range of the image data and generates data of a processed image; and

15 a file creation unit that creates an image file by storing the data of the processed image into an image data area of the image file, which is referenced as image data and storing the data of the image portion into a non-image data area of the image file which is not referenced as image data.

2. An electronic camera according to claim 1, wherein:

20 the file creation unit includes an encryption unit that encrypts the data of the image portion and stores the data encrypted by the encryption unit into the non-image data area.

25 3. An electronic camera according to claim 1, further comprising:

an image compression unit that generates compressed data by executing image compression on the image data generated by the image-capturing unit, wherein:

the data extraction unit extracts data corresponding
5 to the image plane range from the compressed data as data of
the image portion; and

the data insertion unit writes compressed data of the specific image over the data corresponding to the image plane range in the compressed data.

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4. An electronic camera according to claim 3, wherein:

the image compression unit inserts marker code indicating a position within an image plane in the image data while generating the compressed data;

15 the data extraction unit extracts the data corresponding to the image plane range as the data of the image portion based upon the marker code; and

the data insertion unit writes the compressed data of the specific image over the data corresponding to the image
20 plane range based upon the marker code.

5. An electronic camera according to claim 1, wherein:

the image file is a JPEG file; and

the file creation unit stores the data of the processed
25 image into a frame in the JPEG file and stores the data of

the image portion into an application segment in the JPEG file.

6. An electronic camera according to claim 1, wherein:
the predetermined specific image includes information
5 related to copyright.
7. An electronic camera according to claim 1, wherein:
the predetermined specific information includes at
least information indicating a photographer name or a
10 photographing date/time.
8. An image processing method for restoring an image
comprising steps of:
obtaining the image file created in an electronic camera
15 according to claim 1;
reading out the data of the processed image from the
image data area of the image file;
reading out the data of the image portion from the
non-image data area of the image file;
20 specifying the data of the specific image in the data
of the processed image; and
writing the data of the image portion over the specified
data of the specific image.
- 25 9. An image processing method for restoring an image

comprising steps of:

obtaining the image file created in an electronic camera according to claim 2;

reading out the data of the processed image from the 5 image data area of the image file;

reading out the encrypted data of the image portion from the non-image data area of the image file;

obtaining the data of the image portion by decrypting the encrypted data of the image portion;

10 specifying the data of the specific image in the data of the processed image; and

writing the data of the image portion over the specified data of the specific image.

15 10. An image processing method for restoring an image comprising steps of:

obtaining the image file created in an electronic camera according to claim 4;

20 reading out the compressed data containing the marker code from the image data area of the image file;

reading out the compressed data stored as the data of the image portion from the non-image data area of the image file;

specifying the compressed data of the specific image 25 contained in the compressed data based upon the marker code

included in the compressed data; and
writing the compressed data constituting the data of
the image portion having been read out over the specified
compressed data of the specific image.

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11. An image file creating method for creating an image file
by processing image data obtained through an image-capturing
operation, comprising steps of:

obtaining the image data by capturing a subject image;
10 setting an image plane range corresponding to a portion
of the image data and extracting data of an image portion from
the image plane range;

generating data of a processed image by writing the data
of a predetermined specific image over the image plane range
15 of the image data;

storing the data of the processed image into an image
data area of the image file which is referenced as image data;
and

20 storing the data of the image portion into a non-image
data area of the image file which is not referenced as image
data.

12. A computer-readable computer program product having an
image processing program for restoring an image, the image
25 processing program comprising instruction codes of:

obtaining the image file created in an electronic camera according to claim 1;

reading out the data of the processed image from the image data area of the image file;

5 reading out the data of the image portion from the non-image data area of the image file;

specifying the data of the specific image in the data of the processed image; and

writing the data of the image portion over the specified
10 data of the specific image.

13. A computer-readable computer program product having an image processing program for restoring an image, the image processing program comprising instruction codes of:

15 obtaining the image file created in an electronic camera according to claim 2;

reading out the data of the processed image from the image data area of the image file;

reading out the encrypted data of the image portion from
20 the non-image data area of the image file;

obtaining the data of the image portion by decrypting the encrypted data of the image portion;

specifying the data of the specific image in the data of the processed image; and

25 writing the data of the image portion over the specified

data of the specific image.

14. A computer-readable computer program product having an image processing program for restoring an image, the image
5 processing program comprising instruction codes of:

obtaining the image file created in an electronic camera according to claim 4;

reading out the compressed data containing the marker code from the image data area of the image file;

10 reading out the compressed data stored as the data of the image portion from the non-image data area of the image file;

specifying the compressed data of the specific image contained in the compressed data based upon the marker code
15 included in the compressed data; and

writing the compressed data constituting the data of the image portion having been read out over the specified compressed data of the specific image.